

## A GYNANDROMORPHIC CRAB SPIDER

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The majority of American gynandromorphic spiders have been described by Exline (1938). Kaston, (in press), discusses other cases of gynandromorphism as well as other types of interesting anomalies which occur in spiders.

The description which follows concerns a gynandromorphic *Xysticus transversatus* (Walckenaer), which was collected by the author while sweeping a grassy field in Wethersfield, Connecticut on May 22, 1960. The asymmetry of the abdomen led to further examination. It was noted that the palp on what later proved to be the male side was missing. The specimen was determined by Dr. B. J. Kaston, Central Connecticut State College, to whom the author wishes to express his gratitude and appreciation for the guidance and help given in this study.

*Color:* The thoracic portion of the median band on the carapace is tan colored on the left side (male) while on the right side (female), the color is cream. The lighter areas running medial to the thoracic margins of the carapace are likewise tan and cream respectively. The legs of the left side are colored like the legs of a normal male, an orange brown, and those of the right side are colored like the legs of a normal female, a dull yellow with brown spots. The right side of the dorsum of the abdomen shows three light brown areas separated by two transverse bars of a creamy white color, whereas the left side has three dark orange brown areas separated by two distinctly white transverse bars. This difference is similar to the situation reported by Balogh (1936) in his gynandromorphic salticid, *Philaeus chrysops* (Poda). The ventral surface of the abdomen is uniformly cream colored with numerous brown spots present. The spots of the left side are a slightly darker brown than those of the right side. There is no difference in the coloration of the sternum, labium and endites.

*Eyes:* The eyes do not show any differences with respect to their size or the spacing between them. Gertsch (1939) reports that in the female, the median eyes of both rows are separated by three diameters, and in the male, they are separated by only two diameters. In the gynandromorph under discussion, the median eyes of both rows are separated by three diameters.

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*Chelicerae:* The chelicerae are dissimilar with respect to size and spination. The one on the left side is thinner and shorter than that of the right side. This type of difference was also found by Balogh in his gynandromorphic salticid. In addition, thirteen small to medium sized erect spines arise from the promarginal face of the right chelicera, and only one medium sized spine and two small ones appear on the corresponding face of the left chelicera. From examination of the normal male and female, the extent of spination of the promarginal faces of the chelicerae appears to be dependent on sex. The other mouthparts show no differences.

*Legs:* The leg sizes are shown below with all measurements in millimeters.

Right	Femur	Pat-tibia	Metatarsus	Tarsus	Total
I	2.21	2.97	1.63	.86	7.67
II	2.40	2.78	1.63	.77	7.58
III	1.63	1.92	.86	.77	5.18
IV	1.73	1.92	.96	.77	5.38
Left	Femur	Pat-tibia	Metatarsus	Tarsus	Total
I	2.69	3.36	2.01	missing	...
II	2.78	3.17	2.11	1.15	9.21
III	1.82	1.92	1.15	.67	5.56
IV	1.92	1.92	1.15	.86	5.85

As can be seen, the legs on the left side are consistently longer than the legs of the right side. The legs show another set of differences and that is spination. Gertsch (1939) reports the spination of the first leg of the male and female. The gynandromorph agrees with this description, with the first left leg characteristically male and the first right leg characteristically female. The spines on the female side are also slightly shorter and thicker than those of the male side.

*Abdomen:* In normal specimens, the length of the abdomen in the female is about 1.4 times as much as that of the male and the width is about 1.2 times as much. The abdomen in the gynandromorph exhibits an enlarged right side which in turn leads to a twisting effect so that the spinnerets are located on the left side of it and are pointing about 20 degrees to the left of center (Fig. 1).

*Spinnerets:* The spinnerets, especially the posterior and anterior pairs, show differences in size which can be seen from the measurements given here in millimeters.

	Left		Right	
	Length	Width at Base	Length	Width at Base
Anterior	.35	.20	.50	.30
Posterior	.25	.10	.35	.15

*Epigynum*: Examination of the epigynal area shows development of the epigynum only on the right side, a situation which is similar to that reported by Hackman (1951) in his gynandromorphic erigonid *Troxochrus scabriculus* (Westring). The median septum is slightly rotated clockwise due to the torsion of the abdomen (Compare Figs. 2 and 3).

*Palps*: The right palp is present and appears normal for a female. Although the palp on the left side is missing, it can be surmised from the other characteristics that this spider is a bilateral gynandromorph, and that the missing palp is a male one.

REFERENCES CITED

Balogh, I. J. 1936. Über eine neue gynandromorphe Spinne, *Philaenus chrysops* (Poda). *Folia Zool. Hydrob.* 9 (1): 67-68.

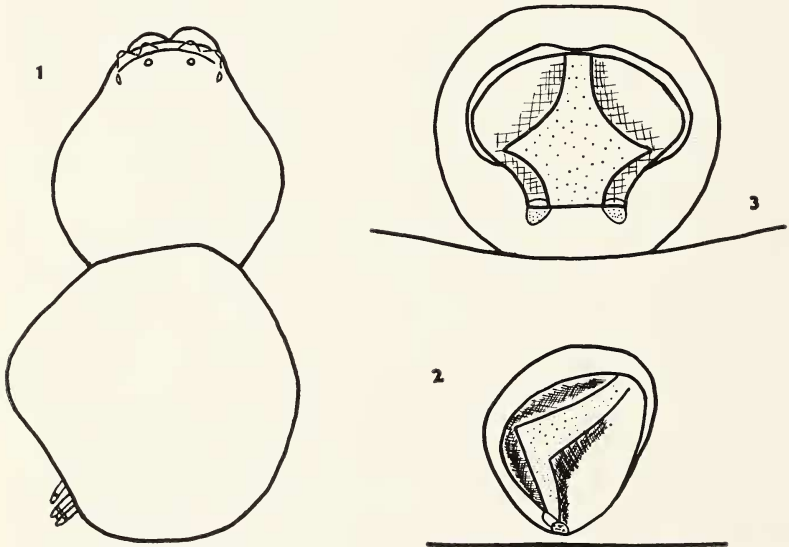


Fig. 1, Dorsal view of gynandromorph *Xysticus transversatus* (Walckenaer). Fig. 2, Epigynum of same. Fig. 3, Epigynum of normal specimen.